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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/549,814	04/14/2000	Matthew D. Hendel	MSI-468US	8691

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EXAMINER

TO, BAOQUOC N

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/549,814

Applicant(s)

HENDEL ET AL.

Examiner

Baoquoc N To

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-57 and 67-75 is/are pending in the application.
- 4a) Of the above claim(s) 76 and 77 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-57 and 67-75 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. The applicant amended claims 1, 2, 5-13, 16, 18, 20, 22-32, 34-37, 39-57, added claims 67-77, and canceled claims 58-66 in the amendment filed 10/28/02. The applicant elected Invention I, claims 1-57 without traverse in acknowledged. The applicant also grouped newly claims 67-77 into Invention I. However, claims 76-77 are drawn to an API with first and second processes, and a write dump file call, which is classified in class 709/328. Thus, claims 67-75 are examined with the elected Invention I, and claims 76-77 are with drawn from further consideration as being drawn to a non-elected invention.

2. Claims 1-57 and 67-77 are pending.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12, 14-31, 32-50, 52-57 and 67-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matthews et al. (US. Patent. No. 6,430,707).

Regarding on claims 1, 20 and 39, Mathews teaches a method for generating a dump file, the method comprising:

- a. generating a dump file (dump image) (col. 2, line 29) by gathering at least:
  - i. thread information for at least one running thread (operating system OS) (col. 3, line 6-64),
  - ii. context information for the thread (thread contains information) (col. 2, line 33) ,
  - iii. callstack information for the thread (col. 4, lines 34-36),
  - iv. process information for a process in which for generating the dump file (the Os is loaded) (col. 2, line 24-27); and
- b. storing the dump file to a storage medium (dump image are stored on storage area) (co. 3, lines 38-41).

Mathews does not explicitly teach generating a dump file. However, Mathews “since the operating system 18 used by the client does not have local permanent storage media in most cases, the only viable target media for dump files reside on the server 21” (col. 3, lines 67 and col. 4, lines 1-3). In addition, Mathews teaches, “the malfunction condition causing the crash, i.e., triggering the need to deliver a system dump of the client’s register and memory data” (col. 4, lines 6-8). This teaches generating a dump file, delivery it and stored in the server 21. Therefore, it would have been obvious to one ordinary skill art at the time of the invention was made to include dump files to allow the system to determine the cause of the malfunction in order to re-store data from the dump file in the server when the system is reboot.

Regarding on claims 2, 23, and 40, Mathews teaches determining when to generate the dump file (malfunction to generate a dump file) (col. 4, line 1-10).

Regarding on claims 3, 22 and 41, Mathews teaches generating the dump file further includes gathering processor information about at least one processor (OS operating system) (col. 4, line 31)

Regarding on claims 4 and 42, Mathews teaches determining when to generate the dump file further determining that an exception (malfunction) has occurred (col. 3, lines 62-63).

Regarding on claims 5, 24 and 43, Matthews teaches the dump file does not include data stored in global memory (server) (col. 3, line 52).

Regarding on claims 6, 25 and 44, Matthews teaches the dump file does not include data stored in uninitialized memory (system memory) (col. 3, lines 51).

Regarding on claims 7, 26 and 45, Matthews teaches the dump file does not include executable instructions (OS operating) used by a processor to execute a program (col. 3, line 15).

Regarding on claims 8, 27, and 46, Matthews teaches the dump file is a kernel minidump file associated with an operating system and the at least one running thread is the single which encounter an exception (malfunction) (col. 3, lines 62-63).

Regarding on claims 9, 28 and 47, Matthew teaches the callstack information includes kernel stack (stack) information (col. 3, line 34-36).

Regarding on claims 10, 29 and 48, Matthews teaches the process information identifies a process that initiated the thread (thread) (col. 2, line 33).

Regarding on claims 11, 30 and 49, Matthews teaches allocating a buffer space in memory during an initialization process, wherein the buffer space is suitable for storing the gathered information (col. 6, lines 36-37); and

Reserving space on the storage medium suitable for writing the contents of the buffer space (col. 6, lines 37-39).

Regarding on claims 12, 31 and 50, Matthews teaches generating the dump file further includes initially storing the thread information, the context information, the callstack information, the process information, and the information identifying the reason for generating the dump file to the buffer space, and then copying the dump file from the buffer space to the storage medium as a minidump file (col. 2, lines 27-41).

Regarding on claims 14, 33 and 52, Matthews teaches the dump file is a user minidump file associated with at least one non-operating system program (col. 3, lines 15-17).

Regarding on claims 15, 34, and 53, Matthews teaches generating the dump file further includes gathering callstack (stack) information for all running threads (col. 2, line 33).

Regarding on claims 16, 35 and 54, Matthews teaches the callstack information includes a user callstack (stack) (col. 4, line 34-36).

Regarding on claims 17, 36 and 55, Matthews teaches generating the dump file further includes gathering processor context information for all running threads (col. 6, lines 9-10).

Regarding on claims 18, 37, 56, 69, 72 and 75, Matthews teaches generating the dump file further includes gathering a listing of loaded modules (application program are load) for faulting application program (col. 3, lines 21-24).

Regarding on claims 19, 38 and 57, Matthews teaches the dump file is a directory indexed file that uses relative virtual addresses (RVAs) (col. 6, lines 39-45).

Regarding on claim 21, Mathews teaches generating the dump file further storing the dump file to a storage medium (dump files reside side on sever 21) (col. 4, lines 1-3).

Regarding on claims 67, 70 and 73, Mathews teaches providing the dump file to at least one external device (disk 72) (col. 6, lines 8-9).



Regarding on claims 68, 71 and 74, Matthews teaches upon system re-initialization, transferring the dump file from the storage medium to at least one external device (sever is an external device) (col. 2, line 38).

4. Claims 13, 32 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matthews et al. (US. Patent. No. 6,430,707) in view of Joannin (US. Patent No. 5,603,033).

Regarding on claims 13, 32 and 51, Matthews does not explicitly teach upon re-initialization, after having stored the minidump file to the storage medium, accessing the minidump file on the storage medium and using at least a portion of the minidump to further understand an exception that was at least one reason for generating the minidump file. However, Joannin teaches, "when a post-mortem dump is performed, the same algorithm is still applicable, since such an analysis is necessarily done in the physical mode. To do so, the dump is retrieved from a disk or a file, as is typically is done, and then in an original manner, the algorithm employed by took KD is applied to the contents of this disk or file, thus making it possible to analyze a given problem that occurs when a system malfunction" (col. 6, lines 44-51). This teaches the dump file being retrieved for analyzing the cause to generate the dump file. Therefore, it would have been obvious to one ordinary skill in the art the time of the invention was made to modify the teaching of Joannin into Matthews because retrieving and analyzing the dump file would allow the system to identify the cause for generating the dump file in order to restore the file back to the user when the system is rebooted.

**Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is (703) 305-1949 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y. Vu can be reached at (703) 305-4393.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

- (703) 746-7238 [After Final Communication]
- (703) 746-7239 [Official Communication]
- (703) 746-7240 [Non-Official Communication]

Hand-delivered responses should be brought to:

Crystal Park II  
2121 Crystal Drive  
Arlington, VA 22202  
Fourth Floor (Receptionist).

Baoquoc N. To  
January 10, 2002

  
**SHAHID AL ALAM**  
**PATENT EXAMINER**